

WHAT IS CLAIMED IS:

1. A chemical mechanical polishing monitoring system, comprising:
a pump delivering a slurry to a polishing pad; and
a rotation sensing device coupled to the pump sensing a rotation of the
pump and generating a signal indicative of the rotation of the pump.

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2. The system of Claim 1, further comprising a computer operable to receive the signal from the rotation sensing device and to compare the signal to a threshold signal in order to monitor the pump during use.

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3. The system of Claim 2, wherein the computer is further operable to generate a message based on the comparison.

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4. The system of Claim 1, further comprising a controller operable to send a drive voltage to the pump based on a desired volumetric flow rate for the slurry.

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5. The system of Claim 4, wherein the signal is a voltage and further comprising a computer coupled to the rotation sensing device and the controller, the computer operable to:

receive the voltage from the rotation sensing device;
receive the drive voltage from the controller; and
compare the voltage to a threshold voltage that is based, in part, on the drive voltage in order to monitor the pump during use.

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6. The system of Claim 1, wherein the pump comprises a peristaltic pump.

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7. The system of Claim 1, wherein the rotation sensing device comprises a tachogenerator.

8. The system of Claim 1, wherein the rotation sensing device comprises an encoder.

9. The system of Claim 1, wherein the rotation sensing device comprises 5 a fiber optic detector.

10. The system of Claim 1, wherein the rotation sensing device comprises a digital counter.

11. A chemical mechanical polishing monitoring system, comprising:
- 5 a peristaltic pump operable to deliver a slurry to a polishing pad;
- a controller operable to send a drive voltage to the peristaltic pump based on a desired volumetric flow rate for the slurry;
- a rotation sensing device coupled to a rotating shaft of the peristaltic pump and operable to sense a rotation of the peristaltic pump, the rotation sensing device further operable to generate a voltage indicative of the rotation of the peristaltic pump; and
- 10 a computer coupled to the rotation sensing device and the controller, the computer operable to:
- receive the drive voltage from the controller;
- receive the voltage from the rotation sensing device; and
- compare the voltage to a threshold voltage that is based, in part, on the drive voltage in order to monitor the peristaltic pump during use.
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12. The system of Claim 11, wherein the computer is further operable to generate a message based on the comparison.

20 13. The system of Claim 11, wherein the rotation sensing device is selected from the group consisting of a tachogenerator, an encoder, a fiber optic detector, and a digital counter.

14. A chemical mechanical polishing monitoring method, comprising:
sending a drive voltage to a pump, the drive voltage based on a desired
volumetric flow rate for a slurry;
delivering, via the pump, the slurry to a polishing pad;
5 sensing a rotation of the pump;
generating a signal indicative of the rotation of the pump; and
comparing the signal to a threshold signal that is based, in part, on the
drive voltage in order to monitor the pump during use.

10 15. The method of Claim 14, further comprising generating a message
based on the comparison.

16. The method of Claim 14, wherein the pump comprises a peristaltic
pump.
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17. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a tachogenerator.

18. The method of Claim 14, wherein sensing a rotation of the pump
20 comprises sensing a rotation of the pump via an encoder.

19. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a fiber optic detector.

25 20. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a digital counter.